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10/566,172	01/27/2006	Toru Suzuki	01272520226	2509

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EXAMINER	
VO, ANH T N	

ART UNIT	PAPER NUMBER
2861	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/566,172	SUZUKI ET AL.	
	Examiner	Art Unit	
	Anh T.N. Vo	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

FINAL REJECTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 10-12 and 17 are rejected under 35 USC 102 (b) as being anticipated by Robinson (US 6,416,166).

Robinson discloses in Figures 1A-17 an ink cartridge comprising:

- a casing (50) of the ink cartridge (16);
- an ink storage portion (bag 70, Figure 17) positioned in the casing, for containing ink;
- an engage reference portion (52 on the wall 90) provided on the easing and serving as a reference position in installing the ink cartridge in the inkjet printing apparatus, and
- a joint section (60) provided on the ink storage portion and connectable to an ink supply route of the inkier printing head;
- wherein the joint section is positioned in the proximity of one end of the ink cartridge, wherein the engage reference portion (52) is positioned between the one end (93) and an opposite end (94) of the ink cartridge, and wherein the distance LI between the joint section (60) and the engage reference portion (52)is shorter than the distance L2 between the one end (93, 94) of the ink cartridge and the engage reference portion (center 52), the distance L2 being defined as the shortest distance between the one end (93, 94) of the ink cartridge and the engage reference portion (52 on the wall 90);
- wherein the joint section (60) comprises a sealing member (72, Figure 11) through which a hollow needle connected to the ink supply route can be inserted;

- wherein the reference portion (52) engageable to an engage section (not shown, see lines 30-45, column 4) provided in the inkier head (25, Figure 1B);
- wherein the distance L3 between the reference portion (52) and the engage reference portion is inherently shorter than the distance L2;
- wherein the reference portion (52) is positioned in an outer surface at which the joint section (60) is located, see Figure 6; and
- wherein ink is contained in the ink storage portion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, and 17 are rejected under 35 USC 103 (a) as being unpatentable over Suzuki et al. (US Pat. 5,500,664).

Suzuki et al. disclose in Figure 1 an ink jet printer comprising:

- a casing (19) of the ink cartridge;
- an ink storage portion (20) positioned in the casing (19), for containing ink;
- an engage reference portion (24) provided on the casing (19) and serving as a reference position in installing the ink cartridge (19) in the inkjet printing apparatus (2);
- a joint section (28) provided on the ink storage portion (20) and connectable to an ink supply route (17) of the inkjet printing head (2);
- wherein the joint section (28) is positioned in the proximity of one end of the ink cartridge (19);

- wherein the engage reference portion (24) is positioned between the one end and an opposite end of the ink cartridge (19);
-. wherein the ink cartridge (19) is virtually rectangular, and an outer surface at which the engage reference portion (24) is positioned, an outer surface at which the joint section (28) is positioned, and the side surface mutually differs;
- wherein the outer surface at which the engage reference portion (24) is positioned, the outer surface at which the joint section (28) is positioned, and the side surface area arranged next to each other;
- wherein the ink cartridge (19) is inserted into the inkjet printing apparatus (1, 2) from a predetermined insertion direction, and the side surface is present ahead (2) of the insertion direction; and
- an ink is contained in the ink storage portion (25).

However, Suzuki et al does not disclose that the distance L1 between the joint section (28) and the engage reference portion (24) is shorter than the distance L2 between the one end of the ink cartridge (19) and the engage reference portion (24), wherein the distance L2 is defined as the shortest distance between one end of the cartridge and the engage reference portion. Since the cartridge of Suzuki is mounted on the carriage of the printer, a skilled artisan realizes that the locations of the engage reference portion (24) and the joint section (28) are determined by the structure of the carriage. Thus, selecting the position of the portion (24) and the section (28) of Suzuki as claimed is considered to be a matter of a mechanical design expedient for an engineer. It would have been obvious to a person having skill in the art at the time the invention was made to rearrange the position of the portion (24) and the section (28) of Suzuki as claimed for the purpose of accommodating with the layout structure of the carriage of a predetermined printer.

Claims 1-4, 10-12 and 17 are rejected under 35 USC 103(a) as being unpatentable over Oda et al. (US Pat. 5,552,816).

Oda et al. disclose in Figure 6(A) an ink jet recording apparatus comprising:

1. a casing (21, 22) of the ink cartridge (T);
an ink storage portion (25) positioned in the casing (21, 22), for containing ink;
an engage reference portion (left side number 22a) provided on the casing (21, 22) and serving as a reference position in installing the ink cartridge (T) in the inkjet printing apparatus (16); and
a joint section (21a) provided on the ink storage portion (25) and connectable to an ink supply route of the inkjet printing head (16),
wherein the joint section (21a) is positioned in the proximity of one end (21) of the ink cartridge (T),
wherein the engage reference portion (left side number 22a) is positioned between the one end (21) and an opposite end (23) of the ink cartridge (T), and
wherein the distance L1 between the joint section (21a) and the engage reference portion (left side number 22a) is shorter than the distance L2 between the one end (21) of the ink cartridge (T) and the engage reference portion (left side number 22a) (Figure 6A).
2. wherein the ink cartridge (T) is virtually rectangular, and an outer surface at which the engage reference portion (left side number 22a) is positioned, an outer surface at which the joint section (13c) is positioned, and the side surface mutually differs.
3. wherein the outer surface at which the engage reference portion (left side number 22a) is positioned, the outer surface at which the joint section (left side number 13c) is positioned, and the side surface area arranged next to each other.
4. wherein the ink cartridge (T) is inserted into the inkjet printing apparatus (C, 16) from a predetermined insertion direction, and the side surface is present ahead (16) of the insertion direction.
10. a reference portion (right side number 22a) engageable to an engage section (right side number 13c) provided in the inkjet head (16).
11. wherein the distance L3 between the reference portion (right side number 22a) and the engage reference portion (left side number 22a) is shorter than the distance L2.
12. wherein the reference portion (right side number 22a) is positioned in an outer surface at

which the joint section (right side number 13c) is located.
17. an ink is contained in the ink storage portion (25).

However, Oda et al does not disclose that the distance L1 between the joint section and the engage reference portion is shorter than the distance L2 between the one end of the ink cartridge and the engage reference portion, wherein the distance L2 is defined as the shortest distance between one end of the cartridge and the engage reference portion. Since the cartridge of Oda et al is mounted on the carriage of the printer, a skilled artisan realizes that the locations of the engage reference portion and the joint section are determined by the structure of the carriage. Thus, selecting the position of the portion and the section of Oda et al as claimed is considered to be a matter of a mechanical design expedient for an engineer. It would have been obvious to a person having skill in the art at the time the invention was made to rearrange the position of the portion and the section of Oda et al as claimed for the purpose of accommodating with the layout structure of the carriage of a predetermined printer.

Claims 1-4, 5, 7, 9-10 and 17 are rejected under 35 USC 103 (a) as being unpatentable over Inoue et al. (US Pat. 5,619,237).

Inoue et al. discloses in Figures 2, 14-17, 20 and 23-24 an ink cartridge for use in an ink jet printer comprising:

1. a casing (30) of the ink cartridge ;
an ink storage portion (33) positioned in the casing (30), for containing ink;
an engage reference portion (32d) provided on the casing (30) and serving as a reference position in installing the ink cartridge in the inkjet printing apparatus; and
a joint section (32b) provided on the ink storage portion (33) and connectable to an ink supply route of the inkjet printing head (60) (Figures 14-16),
wherein the joint section (32b) is positioned in the proximity of one end (32) of the ink cartridge (30),

wherein the engage reference portion (32d) is positioned between the one end (32) and an opposite end (31) of the ink cartridge (30), and
wherein the distance L1 between the joint section (32b) and the engage reference portion (32d) is shorter than the distance L2 between the one end (32) of the ink cartridge (30) and the engage reference portion (32d) (Figure 14).
4. wherein the ink cartridge (30) is inserted into the inkjet printing apparatus from a predetermined insertion direction, and the side surface is present ahead (60) of the insertion direction (Figure 16).
5. wherein the ink cartridge (30) is rotated about a predetermined rotation center axis in the inkjet printing apparatus, and the side surface is located at the most distant position from the rotation center axis (Figure 16).
7. wherein the ink cartridge (30 or 140) includes a plurality of the joint sections such that the ink joint sections are connected to the corresponding ink supply routes, respectively (Figure 24).
9. a plurality of ink storing sections (143C, 143M, 143Y), which are connected to the plurality of joint sections, respectively (Figure 24).
10. a reference portion (132e or 142e) engageable to an engage section (167a or 167a') provided in the inkjet head (101) (Figures 23-24).
17. an ink is contained in the ink storage portion (33).

However, Inoue et al does not disclose that the distance L1 between the joint section and the engage reference portion is shorter than the distance L2 between the one end of the ink cartridge and the engage reference portion, wherein the distance L2 is defined as the shortest distance between one end of the cartridge and the engage reference portion. Since the cartridge of Inoue et al is mounted on the carriage of the printer, a skilled artisan realizes that the locations of the engage reference portion and the joint section are determined by the structure of the carriage. Thus, selecting the position of the portion and the section of Inoue et al as claimed is considered to be a matter of a mechanical design expedient for an engineer. It would have been obvious to a person having skill in the art at the time the invention was made to rearrange the

position of the portion and the section of Inoue et al as claimed for the purpose of accommodating with the layout structure of the carriage of a predetermined printer.

Claims 1-17 are rejected under 35 USC 103 (a) as being unpatentable over Nakazawa et al. (US Pat. 6,908,182) in view of Suzuki et al. (US Pat. 5,500,664) and further in view of Inoue et al. (US Pat. 5,619,237) and Oda et al. (US Pat. 5,552,816).

Nakazawa et al. discloses in Figures 3-12 and 15-16 an ink cartridge for use in an ink jet printer comprising:

- a casing (2) of the ink cartridge (1) (Figure 4);
- an ink storage portion [3(1), 3(2)] positioned in the casing (2), for containing ink (Figure 4);
- a joint section (16, 17) provided on the ink storage portion [3(1), 3(2)] and connectable to an ink supply route (207) of the inkjet printing head (209) (Figure 11),
- wherein the joint section (16, 17) is positioned in the proximity of one end of the ink cartridge (1),
- wherein the joint section (16, 17) comprises a sealing member (73) through which a hollow needle (204) connected to the ink supply route (207) can be inserted (Figures 4 and 11);
- wherein the ink cartridge (1) includes a plurality of the joint sections (16, 17) such that the ink joint sections are connected to the corresponding ink supply routes, respectively (Figures 4 and 11);
- wherein the plurality of joint sections (16, 17) are aligned along the side surface (Figure 4);
- a plurality of ink storing sections [3(1), 3(2)] which are connected to the plurality of joint sections (16, 17), respectively;
- an absorber (5) for absorbing ink from the inkjet head (209) (Figures 4 and 11);
- wherein the absorber (5) absorbs ink ejected from the inkjet head (209) and fails to contribute to printing an image (Figures 4 and 11);
- wherein the absorber (5) absorbs ink ejected from the inkjet head (209) in order to keep the state of the inkjet head (209) in a good condition (Figures 4 and 11); and

- an ink is contained in the ink storage portion [3(1), 3(2)] (Figure 4).

However, Nakazawa et al. do not disclose that the ink cartridge comprising an engage reference portion provided on the casing and serving as a reference position in installing the ink cartridge in the inkjet printing apparatus; wherein the engage reference portion is positioned between the one end and an opposite end of the ink cartridge, and wherein the distance between the joint section and the engage reference portion is shorter than the distance L2 between the one end of the ink cartridge and the engage reference portion; wherein the ink cartridge is virtually rectangular, and an outer surface at which the engage reference portion is positioned, an outer surface at which the joint section is positioned, and the side surface mutually differ; wherein the outer surface at which the engage reference portion is positioned, the outer surface at which the joint section is positioned, and the side surface area arranged next to each other; wherein the ink cartridge is inserted into the inkjet printing apparatus from a predetermined insertion direction, and the side surface is present ahead of the insertion direction; wherein the ink cartridge is rotated about a predetermined rotation center axis in the inkjet printing apparatus, and the side surface is located at the most distant position from the rotation center axis; a reference portion engageable to an engage section provided in the inkjet head; wherein the distance L3 between the reference portion and the engage reference portion is shorter than the distance L2; wherein the reference portion is positioned in an outer surface at which the joint section is located; and wherein the reference portion is a reference hole engageable with a reference axis provided in the inkjet head.

Nevertheless, Suzuki et al. disclose in Figure 1 an ink jet printer comprising:
- a casing (19) of the ink cartridge ;
- an ink storage portion (20) positioned in the casing (19), for containing ink;
- an engage reference portion (24) provided on the casing (19) and serving as a reference position in installing the ink cartridge (19) in the inkjet printing apparatus (2);
- a joint section (28) provided on the ink storage portion (20) and connectable to an ink supply route (17) of the inkjet printing head (2),
- wherein the joint section (28) is positioned in the proximity of one end of the ink

cartridge (19),

- wherein the engage reference portion (24) is positioned between the one end and an opposite end of the ink cartridge (19), and
- wherein the distance L1 between the joint section (28) and the engage reference portion (24) is shorter than the distance L2 between the one end of the ink cartridge (19) and the engage reference portion (24) (Figure 1);
- wherein the ink cartridge (19) is virtually rectangular, and an outer surface at which the engage reference portion (24) is positioned, an outer surface at which the joint section (28) is positioned, and the side surface mutually differ;
- wherein the outer surface at which the engage reference portion (24) is positioned, the outer surface at which the joint section (28) is positioned, and the side surface area arranged next to each other.
- wherein the ink cartridge (19) is inserted into the inkjet printing apparatus (1, 2) from a predetermined insertion direction, and the side surface is present ahead (2) of the insertion direction;
- a reference portion (hole 28) engageable to an engage section (12') provided in the inkjet head (2, 1350) (Figure 1);
- wherein the reference portion (hole 28) is a reference hole engageable with a reference axis (12) provided in the inkjet head (2, 1350) (Figure 1).

Furthermore, Inoue et al. discloses in Figures 2, 14-17, 20 and 23-24 an ink cartridge for use in an ink jet printer comprising the ink cartridge (30) is rotated about a predetermined rotation center axis in the inkjet printing apparatus, and the side surface is located at the most distant position from the rotation center axis (Figure 16).

Additionally, Oda et al. disclose in Figure 6(A) an ink jet recording apparatus comprising:

- a reference portion (right side number 22a) engageable to an engage section (right side number 13c) provided in the inkjet head (16);

- wherein the distance L3 between the reference portion (right side number 22a) and the engage reference portion (left side number 22a) is shorter than the distance L2; and
- wherein the reference portion (right side number 22a) is positioned in an outer surface at which the joint section (right side number 13c) is located.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Suzuki al., Inoue et al. and Oda et al. in the Nakazawa et al. ink jet printer for the purpose of providing engaging portions to securely install between an ink cartridge and ink jet printer and providing an elastic member to seal an ink discharge port for ink leakage prevention.

Although Suzuki et al does not disclose that the distance L1 between the joint section and the engage reference portion is shorter than the distance L2 between the one end of the ink cartridge and the engage reference portion, wherein the distance L2 is defined as the shortest distance between one end of the cartridge and the engage reference portion; however, since the cartridge of Suzuki et al is mounted on the carriage of the printer, a skilled artisan realizes that the locations of the engage reference portion and the joint section are determined by the structure of the carriage. Thus, selecting the position of the portion and the section of Suzuki et al as claimed is considered to be a matter of a mechanical design expedient for an engineer. It would have been obvious to a person having skill in the art at the time the invention was made to rearrange the position of the portion and the section of Suzuki et al as claimed for the purpose of accommodating with the layout structure of the carriage of a predetermined printer.

Claims 14-16 are rejected under 35 USC 103 (a) as being unpatentable over Robinson (US 6,416,166) in view of Nakazawa et al. (US Pat. 6,908,182).

Robinson discloses an ink cartridge with all of the limitatiosn of the claimed invention as stated above but does not disclose an absorber for absorbing ink from the printhead.

Nevertheless, Nakazawa et al suggests in Figure 4 an absorber (5) for absorbing waste ink.

It would have been obvious to a person having skill in the art at the time the invention was made to employ the absorber as suggested by Nakazawa et al in the device of Robinson for the purpose of absorbing waste ink.

Response to Applicant's Arguments

The applicant argues that Suzuki et al, Oda et al and Inoue et al do not disclose that the distance L1 between the joint section and the engage reference portion is shorter than the distance L2 between the one end of the ink cartridge and the engage reference portion, wherein the distance L2 is defined as the shortest distance between one end of the cartridge and the engage reference portion. The arguments are not persuasive because selecting the position of the portion and the section of Suzuki et al as claimed for the purpose of accommodating with the layout structure of the carriage of a predetermined printer is considered to be a matter of a mechanical design expedient for an engineer that would have been obvious at the time of the invention. Also, this limitation is suggested in the Robinson reference (US 6,416,166) as stated above.

CONCLUSION

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 9:00 A.M.to 5:30 P.M..

The fax number of this Group 2861 is (571) 273-8300.

ANH T.N. VO
PRIMARY EXAMINER
October 9, 2007